

## WHAT IS CLAIMED IS:

1. A system for managing network elements, said system comprising:

at least one network element;

management information base operable to store objects;

management processor communicatively coupled to said management information

base;

at least one gateway communicatively coupled to said management processor, said at least one gateway operable to manage said at least one network element; and

at least one object stored in said management information base defining management behavior for managing said at least one network element, said at least one object including a relationship attribute identifying said at least one gateway.

2. The system of claim 1 further comprising:

software code executable by said management processor for generating a user interface with which a user can interact to define management behavior.

3. The system of claim 2 wherein user-defined management behavior can be activated at run-time of said management processor.

4. The system of claim 1 wherein said management behavior includes behavior associated with managing trap messages received from said at least one network element.

5. The system of claim 1 wherein said management behavior includes behavior associated with managing polling activities.

6. The system of claim 1 wherein said management behavior includes one or more behaviors selected from the group consisting of:

generating an alert, logging information to a database, logging information to another system, initiating a polling activity, filtering information, performing suppression of information, performing correlation of information, performing thresholding, triggering an e-mail message, triggering a page, and any combination thereof.

7. The system of claim 1 further comprising:

a plurality of network elements; and

a plurality of said gateways each operable to manage one or more of said plurality of network elements.

8. The system of claim 7 further comprising:

a plurality of objects stored in said management information base each defining different management behavior.

9. The system of claim 8 wherein each of said plurality of objects includes a relationship attribute identifying at least one of said plurality of gateways that is executable to perform management behavior defined by such object.

10. The system of claim 8 wherein said management processor is operable to autonomously determine appropriate one or more of said plurality of gateways to which each of said objects relates, and wherein said management processor is operable to autonomously communicate one or more of said plurality of objects to the determined appropriate one or more of said plurality of gateways.

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11. The system of claim 10 wherein the determined appropriate one or more of said plurality of gateways stores said one or more of said plurality of objects local thereto.

12. The system of claim 10 wherein the said management processor is operable to autonomously communicate one or more of said plurality of objects to the determined appropriate one or more of said plurality of gateways responsive to a user defining a new management behavior represented by said one or more of said plurality of objects.

13. The system of claim 12 wherein said management processor executes to present a user interface to a user to enable said user to define management behavior thereby creating new objects to be stored in said management information base or modifying existing ones of said objects stored in said management information base.

14. A method for managing network elements comprising the steps of:

implementing at least one gateway operable to manage one or more network elements,  
said at least one gateway being communicatively coupled to a management processor;

defining a management behavior;

5 representing said management behavior as a behavior object;

storing said behavior object in an information base communicatively coupled to said  
management processor;

said management processor determining an appropriate one or more of said at least  
one gateway that is to perform said defined management behavior; and

10 said management processor autonomously communicating said behavior object to the  
one or more determined gateways.

15. The method of claim 14 further comprising the step of:

said one or more determined gateways storing the behavior object local thereto.

16. The method of claim 15 wherein each of said at least one gateway has  
management software executing thereon, and wherein said management software executes  
according to behavior objects stored local to each of said at least one gateway.

17. The method of claim 14 wherein said determining step further comprises:

said management processor identifying said appropriate one or more of said at least  
one gateway that is to perform said defined management behavior based at least in part on a  
relationship attribute associated with said behavior object that specifies the appropriate one or  
5 more gateways.

18. The method of claim 17 wherein said determining step further comprises:  
said management processor learning from said at least one gateway the management behavior that said at least one gateway is to perform.

19. The method of claim 18 wherein said learning further comprises:  
said management processor receiving communication from said at least one gateway identifying a fault message received by said at least one gateway from a network element;  
and  
said management processor identifying one or more behavior objects corresponding to said fault message.

20. The method of claim 19 wherein said management processor communicates the identified one or more behavior objects corresponding to said fault message to said at least one gateway that received said fault message.

21. The method of claim 19 wherein said management processor updates a relationship attribute associated with the identified one or more behavior objects to specify that said at least one gateway that received said fault message needs to perform the management behavior represented by the identified one or more behavior objects.

22. The method of claim 19 wherein said fault message is received by said at least one gateway in SNMP protocol.

23. The method of claim 17 wherein said determining further comprises:

said management processor receiving input from a user identifying said appropriate one or more of said at least one gateway that is to perform said defined management behavior; and

5       said management processor storing the said appropriate one or more of said at least one gateway in a relationship attribute associated with said behavior object.

24. The method of claim 14 further comprising the step of:

presenting a user interface to enable a user to perform said defining step.

25. The method of claim 14 wherein said management behavior includes behavior associated with managing trap messages received from said one or more network elements.

26. The method of claim 14 wherein said management behavior includes behavior associated with managing polling activities.

27. The method of claim 14 wherein said management behavior includes one or more behaviors selected from the group consisting of:

generating an alert, logging information to a database, logging information to another system, initiating a polling activity, filtering information, performing suppression of  
5       information, performing correlation of information, performing thresholding, triggering an e-mail message, triggering a page, and any combination thereof.

28. The method of claim 14 further comprising the step of:

activating said one or more determined gateways during run-time.

29. A system comprising:

plurality of distributed gateways each operable to manage one or more network elements, each of said distributed gateways comprising code executable in accordance with one or more behavior objects stored local thereto; and

5           central management processor communicatively coupled to said distributed gateways and also communicatively coupled to an information base having user-defined behavior objects stored therein.

30. The system of claim 29 wherein said central management processor executes a management process to autonomously determine appropriate one or more of said plurality of distributed gateways to which one or more of said user-defined behavior objects stored in said information base are to be communicated to be stored local to the determined appropriate distributed gateways.

31. The system of claim 30 wherein said one or more of said user-defined behavior objects communicated to the determined appropriate distributed gateways dictate proper management behavior for the determined appropriate distributed gateways.

32. The system of claim 29 wherein said central management processor executes a management process to communicate one or more of said user-defined behavior objects to one or more of said distributed gateways during run-time of said central management processor.

33. The system of claim 32 wherein said one or more of said user-defined behavior objects communicated to said one or more of said distributed gateways dictate management behavior represented by said one or more of said user-defined behavior objects to be executed by said one or more of said distributed gateways.